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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,554	05/10/2005	Takashi Kozeki	MITSP102US	7095
23623	7590	11/13/2008		
AMIN, TUROCY & CALVIN, LLP				EXAMINER
127 Public Square				FRASER, STEWART A
57th Floor, Key Tower			ART UNIT	PAPER NUMBER
CLEVELAND, OH 44114				1795
			NOTIFICATION DATE	DELIVERY MODE
			11/13/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket1@thepatentattorneys.com  
hholmes@thepatentattorneys.com  
lpasterchek@thepatentattorneys.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/534,554	<b>Applicant(s)</b> KOZEKI ET AL.
	<b>Examiner</b> STEWART A. FRASER	<b>Art Unit</b> 1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 16 October 2008.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-14 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. The amendment filed 10/16/2008 for Application No. 10/534554 has been entered and fully considered.
2. Claims 1-14 are currently pending and have been fully considered.
3. The 35 U.S.C. 112 rejections of claims 1-6 and the 35 U.S.C. 103(a) rejections presented in the office action dated 6/12/2008 are withdrawn. Furthermore, the objections to the Applicant's drawings presented in the office action dated 6/12/2008 are withdrawn.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over WANG (US 2003/0022073) in view of ZHANG et al. (US 2004/0137339) and KUNDU (US Patent 4,931,404).

The WANG reference recites (Claim 11) the formation of a photomask with an optical pellicle disposed on the surface of a substrate wherein the optical pellicle comprises a pellicle frame with a pellicle membrane mounted thereon. WANG further teaches (Claims 20-22) a method of photolithographic exposing a substrate (Claim 20) comprising the steps of providing a substrate having a layer of photoresist thereon, placing a photomask between the layer of photoresist and a radiation source, the photomask comprising a transparent substrate, a mask pattern on a surface of the substrate defining transmitting and non-transmitting portions, and an amorphous poly(fluorocarbon) film on the surface of the substrate, the film covering the pattern exposing the layer of photoresist to radiation from the source through the photomask. WANG discloses (Claim 21) that 193 nm wavelength radiation can be employed and that the photomask further comprises an optical pellicle (Claim 22) comprising a frame and a pellicle membrane mounted thereon. The WANG reference does not appear to explicitly teach the limitations of claims 1-6 directed to the use of polymer beads of 2,6-diphenyl-p-phenylene oxide as a surface adsorption material.

However, the ZHANG reference recites a photomask assembly and method of protecting the photomask assembly from contaminants generated during a lithography process. ZHANG teaches (Claim 28) a method for protecting a photomask from contaminants wherein a photomask and pellicle assembly is provided with a molecular sieve wherein the molecular sieve functions to prevent airborne molecular contaminants from ruining the photomask pattern.

ZHANG further teaches (Claim 29) the molecular sieve being comprised of at least one material wherein the at least one material may be a surface adsorbent material and a gas separation material. ZHANG also discloses [0059] that the material comprising the molecular sieve may be formed in the shape of beads. The ZHANG reference does not appear to explicitly disclose the limitations of claims 1-6 directed to the use of 2,6-diphenyl-p-phenylene oxide.

However, the KUNDU reference recites methods and materials for detecting analytes in a fluid sample. KUNDU discloses that the materials utilized include those materials which are capable of selectively adsorbing ketones and aldehydes from vapor samples and that such material should also readily and completely desorbs ketone analytes in the presence of preferred solvents. KUNDU teaches (Column 9, Lines 59-69) that 2,6-diphenyl-p-phenylene oxide polymers are capable of being utilized for detecting organic functional groups such as ketones and aldehydes. KUNDU also teaches (Claim 4) that the fluid sample detected may be a vapor.

At the time of the invention, one of ordinary skill in the art would have been motivated to modify the teachings of WANG to further include the teachings of ZHANG and KUNDU in order to develop a method of detecting a volatile organic compound generated during a lithographic exposure process that involves the use of a 2,6-diphenyl-p-phenylene oxide polymer as a surface adsorbent material. In view of the WANG reference, the ZHANG reference teaches that surface adsorption materials may be incorporated into the pellicle and photomask assembly in order to help detect and separate contaminants that can be produced during lithographic exposure processes. In view of the WANG and ZHANG references, KUNDU teaches that a polymeric material, such as 2,6-diphenyl-p-phenylene oxide, can be utilized to detect analytes found in a fluid such as a vapor. Therefore, the claims specified in the instant application would

have been obvious to one of ordinary skill in the art in light of the teachings of WANG, ZHANG, and KUNDU.

*Response to Arguments*

7. Applicant's arguments in light of the claim amendments, see pages 7-9, filed 10/16/2008, with respect to the rejection(s) of claim(s) 1-6 under 35 U.S.C. 103(a) as being unpatentable over SHIOKAWA et al. (JP 2001-147518) in view of ZHANG et al. (US 2004/0137339) and KUNDU (US Patent 4,931,404) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made based on the teachings of WANG (US 2003/0022073) in view of ZHANG et al. (US 2004/0137339) and KUNDU (US Patent 4,931,404).

In response to the initial office action, Applicant argues that the SHIOKAWA reference does not teach the limitations of amended claims 1, 2, 5 and 6 directed to utilizing a pellicle with a radiation source that emits a wavelength on the order of 193 nm. The Applicant points out that SHIOKAWA teaches a pellicle that is used with a longer wavelength such as i-line (365 nm wavelength). However, the rejection made in response to the applicant's amended claims incorporates the WANG reference, in view of the ZHANG and KUNDU references, which discloses the formation of a photomask having an optical pellicle for use in 193 nm lithography applications.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-SHIGEMATSU (US Patent 6,620,555) discloses the formation of a pellicle comprising a fluorine-containing resin.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEWART A. FRASER whose telephone number is (571)270-5126. The examiner can normally be reached on Monday to Thursday 6:30 am to 3:30 pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F. Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark F. Huff/  
Supervisory Patent Examiner, Art Unit 1795

/S. A. F./  
Examiner, Art Unit 1795